Using the Service 1st (S1) Installer v3.8

Background

The Service 1st ArcPad installer is a custom installation package developed by the OR/WA Service 1st Mobile GIS program. Administrative rights are <u>not</u> required to use this installation package when deploying to a mobile device, as long as you have read/write/modify rights to the directory where the installer is being run from. *Installation options to a desktop PC do require administrative privileges.*

This installer can also deploy ESRI ArcPad application to mobile devices. On mobile devices, it will deploy ArcPad 10.0 SP4 and on desktop class devices, it can deploy ArcPad 10.2.1.

Why ArcPad 10.20 on Desktop, but ArcPad 10.0 on Mobile devices? ArcPad 10.20 introduced serious low-memory issues on Windows Mobile Devices. For this reason, at this time it is not advised to use ArcPad 10.2.x on mobile devices. ArcPad 10.2.1 can however be run successfully on desktop class devices, like laptops and tablets. Data collected with either ArcPad version are fully compatible with one another and can be read by any ArcGIS Desktop version 10.0-10.2 check in tools. It is not advised to install versions 10.2.2 or 10.2.3, as these later versions have bugs that interfere with BLM field data collection work flows.

Installable Items

The installer can automatically deploy and configure the following to mobile devices:

- **ArcPad 10 (Service Pack 1)** on mobile or desktop ArcPad, including common GPS settings.
- **Custom ArcPad tools** to further streamline the ArcPad data collection process, including a customizable Favorites toolbar as well as the S1 ArcPad toolbar Version 3.80 (available for mobile and desktop).
- **NISIMS v2.5 compatibility** for BLM users utilizing this system on mobile or desktop.
- **S1 USB Toggle** to allow devices to be seen as a removable drive and therefore be detected in any GIS environment including Citrix (for mobile devices only).
- **ActiveSync/WMDC** (Windows Mobile Device Center) onto a local PC so that a mobile device's hard drive can be seen in order that software can be installed onto the device.

Additional Items Installed (on Mobile Devices)

The installer will also automatically install the following ArcPad-related items on mobile devices:

- ArcPad Today plug-in.
- NADCON Transformation.
- VBscript Runtime.
- SQL Compact Edition (for Windows Mobile 5 devices. only).
- Juno MS Camera upgrade (for Juno SB devices only).

Supported Devices for Auto-Configuration of ArcPad Settings

The installer will configure the appropriate ArcPad settings for many common mobile devices, including:

- Trimble Geo XT/XH/XM.
- Trimble Juno ST/SB/SC/SD/3B/3D.
- Trimble Nomad Series.

- Trimble Recon.
- Trimble Yuma.
- Juniper Archer.

Initial Steps

Verify Compliance with Minimum Requirements

Before running the S1 Installer on a mobile device, you must first confirm that it meets several requirements. If you are installing onto a desktop PC, the only real requirements are administrative privileges for installation and a Windows XP, Vista, or Windows 7 operating system.

Operating System

The S1 Installer works with Windows Mobile operating systems above version 5.0, including the common versions- 6.0, 6.1, and 6.5. If you purchased your mobile device within the past few years, your operating system is most likely supported.

The method for verifying which operating system your device is currently running varies, but it can generally be reached by tapping the **Start** menu, then looking for **Settings > System > About**.
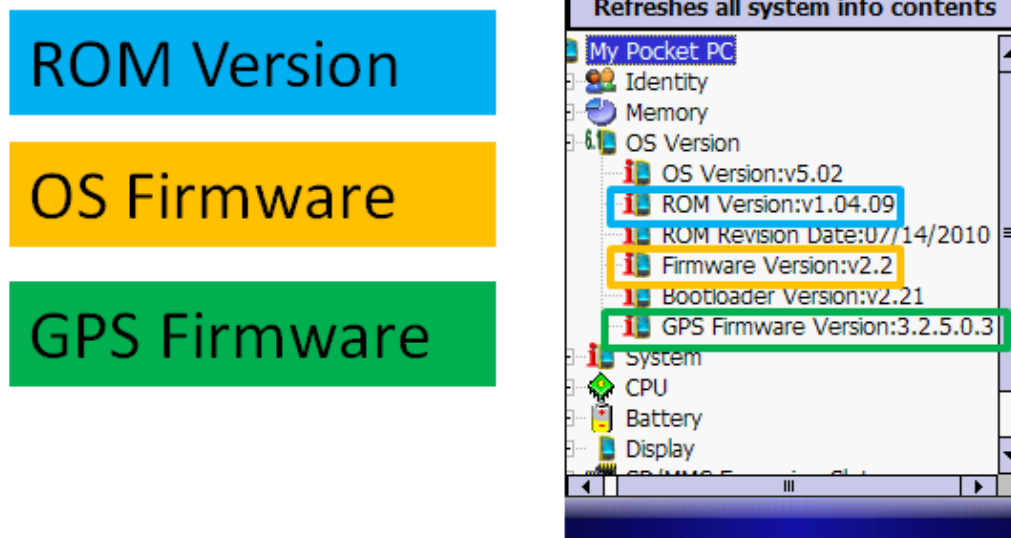
Firmware

For a mobile device to function properly, its firmware must be current. Having the most recent version of firmware can improve a device's performance and minimize the occurrence of "bugs", such as functionality issues related to the device's camera or GPS receiver.

The method of verifying current firmware version varies by operating system, but the general steps are to tap **Start > Settings > System > System Info**. You will be looking for two pieces of information:

1. ROM Version.
2. GPS Firmware Version.

The screen containing this information will vary, but here is an example from a Trimble Juno SB:

Once you have determined your firmware versions, compare them to the following table, which will show you the current firmware version for common mobile devices:

BLM: https://partnerteamspace.blm.doi.net/sites-or/orwamobile/Shared%20Documents/Current%20Mapping%20Grade%20GPS%20Firmware%20Versions.docx

USFS: http://fsteams.fs.fed.us/sites/r06-s1gis/mobile-gis/Shared%20Documents/Current%20Mapping%20Grade%20GPS%20Firmware%20Versions.docx

Memory/Storage Card
Although not technically required in all instances, it is highly recommended that all users have a storage card installed in their device. Additionally, storage cards offer a cheap and convenient way to store and transfer data. The card's location and type vary by device, so consult your owner's manual before making a purchase. If working in an ArcGIS Citrix environment, a SD card is required to enable device connectivity with Citrix via the S1 USB Toggle application.

Back up Existing Data
Before continuing any further, it is highly recommended that you back up important data (if any) installed on your mobile device. Note that this applies only to files stored on the device's hard drive itself (i.e. My Documents), not to those on the storage card. These remain unaffected by the S1 installation process, so backing them up is completely optional.

The steps to back up data on the mobile device are straightforward:

1. Turn on device and connect it to a PC that has Windows Mobile Device Center installed on it. Note that WMDC applies to Windows 7, so if you are using Windows XP you will be using ActiveSync instead. *If asked to set up a partnership, click* **Cancel**.
2. Open Windows Explorer or My Computer.
3. Locate your device (name will vary), which should be under 'Portable Devices'. If you DO NOT see your device, there are several possible reasons:
    a. Your USB cable is not securely connected. Check it at both ends, then try Step 3 again.
    b. Your PC does not have WMDC/ActiveSync installed. If this is the case, you will need to have the appropriate application (WMDC for Windows 7, ActiveSync for Windows XP) installed on your machine. Note that this step requires administrative privileges.
    c. Your PC has WMDC/ActiveSync, but your device is currently in USB Mass Storage Mode. To check if this is the case:
        - *For devices running Windows Mobile 6.5*, tap **Start**, then scroll down and tap **S1USBToggle.exe**. If 'USB Mass Storage Mode' is grayed out, that means you are in that mode, so tap **ActiveSync/WMDC Mode**. If prompted about a restart, tap **ok**.
        - *For all other devices*, tap **Start > Programs**, then scroll down and tap **S1USBToggle.exe**. If 'USB Mass Storage Mode' is grayed out, that means you are in that mode, so tap **ActiveSync/WMDC Mode**. If prompted about a restart, tap **ok**.
4. Double-click your device name to open it, then double-click the **** to view the contents of your device's hard drive.


5. Copy any folders (typically just My Documents) that contain important data and paste them into a safe backup location.
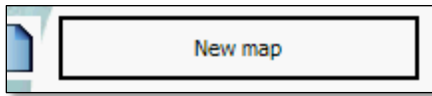
Obtain ArcPad Registration Code

You will eventually need your ArcPad registration code. If you already know the code, proceed to the "Factory Reset" section below. If ArcPad is not currently installed on your device, you will need to obtain the registration code from whoever is in charge of your ArcPad licensing. Otherwise, if ArcPad is already present on your device, follow these steps:

1. On the Home/Today screen, tap the **ArcPad icon** to open ArcPad.
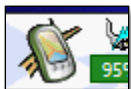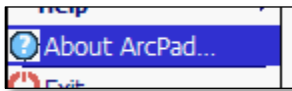
2. At the "Welcome to ArcPad" screen, tap **New map**
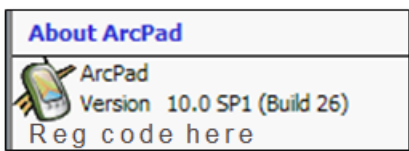   (you will not actually be making a map).

3. Once in ArcPad, tap the **ArcPad icon/menu**
   at the left side of the screen.

4. In the menu that appears, tap **About ArcPad…**

5. Just above the copyright, you will see an
   alphanumeric code. This is your ArcPad
   registration code, so write that down and keep it
   handy for subsequent steps.

Factory-Reset Mobile Device

Prior to installing ArcPad 10, it is *highly recommended* that the user perform a factory reset on the mobile device. Factory-resetting a device will uninstall any old versions of ArcPad and return the device to a clean operating system state. If the device is not factory reset, old versions of ArcPad must be manually un-installed before running the S1 Installer.

Determining if a Factory Reset is Necessary

While factory-resetting your mobile device is strongly encouraged, there may be some cases in which it is not necessary, such as when this step has already been performed recently and the most current version of the S1 Installer has been executed.

First check to see which version of the S1 Toolbar is currently installed in ArcPad (this assumes that these items have actually been installed in the first place). To do so:

1. On the Home/Today screen, tap the **ArcPad icon** to open ArcPad.

2. At the "Welcome to ArcPad" screen, tap **New map** (you will not actually be making a map).

3. Once ArcPad opens, look for a toolbar near the top of the screen with an **N** icon. If you see this, you will need to perform a factory reset on your device. If you do not see it, continue to Step 4.

4. Tap the **S1 icon** S1 to promote the S1 Toolbar.

5. On the far-right side of the S1 Toolbar, tap the **question mark** ❓ . This will open up a help manual specific to the S1 Toolbar.

6. On the first page of the help manual, you should see a "V. #.#" at the top of the screen. This is the version of your S1 Toolbar.

7. Compare this version number to the S1 Installer on the right side of this webpage: http://web.or.blm.gov/gis/resources/mobile_gis_tools.asp. If the numbers match, you have the most current version of the S1 Toolbar. If they do not, you should perform a factory reset on your mobile device.

Performing a Factory Reset

The process for performing an actual factory reset varies by device, but generally involves pressing a combination of buttons.

WARNING: Performing a factory reset will completely wipe the contents of your mobile device and restore the hard drive to its original state. Any programs, such as TerraSync, will need to be manually reinstalled after a factory reset is implemented. If you have any important data stored on the hard drive of the mobile device, be sure to follow the steps from the "Backup Existing Data" section above!

For instructions on how to perform a factory reset on some of the most common mobile devices, visit:

- **BLM personnel** https://partnerteamspace.blm.doi.net/sites-or/orwamobile/Shared%20Documents/Factory%20Reset%20Instructions%20for%20Common%20Mobile%20Devices.pdf
- **Forest Service** http://fsteams.fs.fed.us/sites/r06-s1gis/mobile-gis/Shared%20Documents/Factory%20Reset%20Instructions%20for%20Common%20Mobile%20Devices.pdf

Download and Extract the S1 Installer

You can always download the latest build of the S1 Installer at http://www.blm.gov/or/gis/mobile/arcpad/

The download link to the zipped package is on the right side of the page and has "S1_Toolbar" in the name (version # may differ from screenshot):

S1 Toolbar for ArcPad
Download version 3.70 (zip)

After clicking on the download link, follow these steps:

1. Save the zip file to a location on your local PC in which you have write privileges. As of spring 2013, the functional location for BLM employees is **C:** on your local PC.
2. Once downloaded, extract the files. This step may vary slightly by operating system, but you should essentially be able to open Windows Explorer or My Computer, navigate to the location in which you downloaded the zip file, then right-click it and choose **Extract Files** or something to that effect. Follow the steps in the extraction wizard, if necessary.

Run the S1 Installer

The process below describes the installation of two items, ArcPad 10 and the S1 Toolbar, onto a *mobile device*. See the last section of this document for installation instructions specific to a desktop PC.

Installing the S1 Toolbar

The S1 ArcPad Toolbar is a custom toolbar designed to make ArcPad easier to use by adding additional functionality to the interface that is not available with out-of-the-box software.

Such functionality includes but is not limited to

- Hyperlinking multiple photos to a single feature.
- Buffering a GPS position into a polygon feature.
- Improved overall data capture workflow.
- Base Data Finder.
- Simplified navigation tools.
- Copying feature geometry.

For more information about the toolbar and its capabilities, see the S1 User Guide located in the S1_Documentation folder of the extracted installer package.

When you are ready to begin installation, follow these steps:

1. Verify that your mobile device is powered on, connected to the PC via USB cable, and in **WMDC/ActiveSync** mode (again, you must have WMDC installed on your PC if using Windows 7,

or ActiveSync if using Windows XP, either of which can be installed using the S1 Installer with admin privileges). To check if your mobile device is in the correct mode:

- *For devices running Windows Mobile 6.5:* Tap **Start**, then scroll down and tap **S1USBToggle.exe**. If 'USB Mass Storage Mode' is grayed out, that means you are in that mode, so tap **ActiveSync/WMDC Mode**. If prompted about a restart, tap **ok**.
- *For all other devices:* Tap **Start > Programs**, then scroll down and tap **S1USBToggle.exe**. If 'USB Mass Storage Mode' is grayed out, that means you are in that mode, so tap **ActiveSync/WMDC Mode**. If prompted about a restart, tap **ok**.

For more detailed information about using the S1 USB Toggle, users can visit:

- BLM: https://partnerteamspace.blm.doi.net/sites-or/orwamobile/Shared%20Documents/S1%20USB%20Toggle.docx
- USFS: http://fsteams.fs.fed.us/sites/r06-s1gis/mobile-gis/Shared%20Documents/S1%20USB%20Toggle.docx

2. In Windows Explorer or My Computer, navigate to the folder you extracted during the steps in the previous section. Open this folder, and double-click **S1_Autorun.exe** to initiate the installation process.
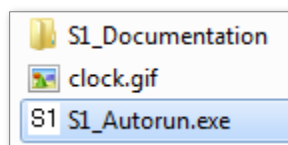
3. Soon a series of dialog boxes and prompts will begin. *NOTE THAT DURING THE INSTALLATION PROCESS, CERTAIN PROMPTS/ALERTS REQUIRING YOUR INPUT MAY OCCUR WITHOUT BEING BROUGHT INTO VIEW, SO KEEP AN EYE ON THE WINDOWS TASKBAR AT THE BOTTOM OF YOUR PC'S SCREEN FOR FLASHING WINDOWS, WHICH WILL NEED TO BE CLICKED ON.*
4. In the **Autorun** dialog, check only "Install S1 ArcPad Toolbar (Mobile)." Then, click **OK**.


5. There will be additional basic prompts which you may need to read and respond to.

Installing ArcPad 10

The S1 Installer will install ArcPad 10.0 if it is not already present on the mobile device.

1. If you performed a factory reset outlined in previous steps and therefore do not have ArcPad installed on your device, you will receive a prompt beginning with "ArcPad is not installed on this device…" Click **Yes** to this message (which will not appear if no factory reset was performed and ArcPad is already on your device).
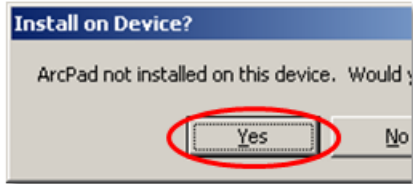
2. The choice you make in the **"Please Choose the Organization you work for"** sets the default projection in ArcPad.
   o If you work for *any* BLM office or are collecting BLM data (i.e. NISIMS), choose "Geographic NAD83 - BLM ". ArcPad's default projection will be set to the BLM national standard, Geographic NAD83.
   o Region 6 Forest Service personnel should choose "OR/WA Albers – USFS R6", which will set the default projection to Region 6 Albers NAD83.
   o Other users should choose "Other". ArcPad will default to WGS84 and no projection is set.
6. Once the installer has completed, you may be asked to set the date and time on your mobile device. After you do so using the on-screen keyboard, *DO NOT click the X* to close the window. Instead, tap on the keyboard icon at the bottom of the screen to minimize the keyboard, and then tap **Submit**.
7. If you receive a message indicating that your device requires a restart, tap **OK**.

Notes for Trimble Positions users

If you use a Trimble GPS receiver and need to be able to post-process your ArcPad GPS-collected data for improved accuracy, you will also need to install the Trimble Positions extension for ArcPad. This is a separate software installation package. See the document "Installing Positions onto Mobile Devices" for more information:

- **BLM** https://partnerteamspace.blm.doi.net/sites-or/orwamobile/Shared%20Documents/Installing_Activating_Postions.pdf.
- **FS** http://fsteams.fs.fed.us/sites/r06-s1gis/mobile-gis/Shared%20Documents/Installing_Activating_Positions.pdf.

Input ArcPad Registration Code
After the S1 Installer has completed, you will need to open ArcPad and enter the registration code obtained from previous steps in this document.

1. On the Home/Today screen, tap the **ArcPad icon** to open ArcPad.

2. When prompted, enter your registration code and tap **ok**.

Activate USB Mass Storage Mode

In order for a mobile device to be seen in a Citrix environment, it must be in USB Mass Storage Mode. To enable this, follow these steps:

For devices running Windows Mobile 6.5

1. Tap **Start**.
2. Scroll down and tap **S1USBToggle.exe**.
3. If the **USB Mass Storage Mode** button is not grayed out, that means you are currently in WMDC/ActiveSync mode, so tap the **USB Mass Storage Mode** button to set the proper mode.
4. If prompted about a restart, tap **ok**.

For all other devices

1. Tap **Start > Programs.**
2. Scroll down and tap **S1USBToggle.exe**.
3. If the **USB Mass Storage Mode** button is not grayed out, that means you are currently in WMDC/ActiveSync Mode, so tap the **USB Mass Storage Mode** button to set the proper mode.
4. If prompted about a restart, tap **ok**.

For more detailed information about using the S1 USB Toggle, users can visit:

- BLM: https://partnerteamspace.blm.doi.net/sites-or/orwamobile/Shared%20Documents/S1%20USB%20Toggle.docx.
- USFS: http://fsteams.fs.fed.us/sites/r06-s1gis/mobile-gis/Shared%20Documents/S1%20USB%20Toggle.docx.

Installing S1 Toolbar & ArcPad 10.2.1 (onto desktop PC)

The S1 Mobile installer can also install ArcPad 10.2.1 and the S1 Toolbar onto a desktop PC or laptop, which may be desirable for users who wish to use ArcPad in the office to enter data (for Citrix users, check to see if ArcPad may already be available in that environment). It is also useful to field staff utilizing laptops, tablet PCs, or Yuma devices to collect field data via ArcPad and the S1 Toolbar.

*****Admin privileges are required to perform this type of installation*****

Why ArcPad 10.2.1 on Desktop, but ArcPad 10.0 on Mobile devices? ArcPad 10.2.1 introduced serious low-memory issues on Windows Mobile Devices. For this reason, it is not advised to use ArcPad 10.2.1 on mobile devices at this time. ArcPad 10.2.1 can however be run successfully on desktop class devices, like laptops and tablets. Data collected with either version are compatible with one another.

Desktop Installation Steps

The process to install the S1 Toolbar and ArcPad is nearly identical to that of mobile devices, except Administration permissions are required. For more in-depth instruction on steps not covered in detail, refer to their respective section in the mobile installation portion found earlier in this guide.

1. If you had a prior version of the S1 Toolbar (and NISIMS 1.0 tools) already installed on desktop ArcPad, you will need to **delete** a couple of things first:
   - The **contents** of your ArcPad Applets folder. The location may vary, but here are a couple of common paths to that folder:
     - C:\Program Files (x86)\ArcGIS\ArcPad10.0\Applets
     - C:\Program Files\ArcGIS\ArcPad10.0\Applets
   - Your **entire "My ArcPad"** folder. This should be found within "My Documents".
   - Uninstall prior versions of ArcPad using Control Panel -> Uninstall Programs -> right click on ESRI ArcPad and choose uninstall.
2. Download, extract/unzip, and initiate the S1_Installer by double clicking on **S1_Autorun.exe**.
3. **To Install ArcPad 10.2.1 Desktop**: In the **Autorun** window, check the option to "Install ArcPad 10.2.1" and click OK. Follow the ESRI installation prompts.
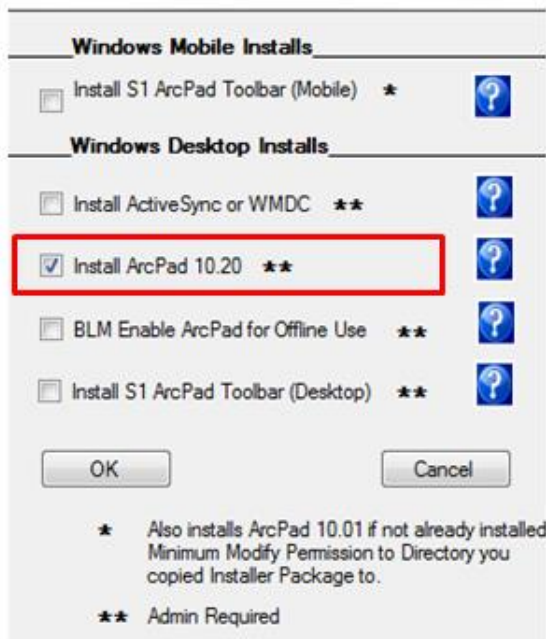
4. **To install S1 Toolbar on Windows Desktop**: In the **S1 Autorun** window, check the option to "Install S1 ArcPad Toolbar (Desktop)," and click OK.

5. Follow the same instructions outlined in the mobile installation section located earlier in this document.

Windows Mobile Installs

☐ Install S1 ArcPad Toolbar (Mobile) ★ ❓

Windows Desktop Installs

☐ Install ActiveSync or WMDC ★★ ❓

☐ Install ArcPad 10.20 ★★ ❓

☐ BLM Enable ArcPad for Offline Use ★★ ❓

☑ Install S1 ArcPad Toolbar (Desktop) ★★ ❓

[OK]   [Cancel]

★   Also installs ArcPad 10.01 if not already installed
     Minimum Modify Permission to Directory you
     copied Installer Package to.

★★ Admin Required